

**Amendments to the Abstract:**

**Please cancel the previous Abstract and replace it with the following rewritten Abstract:**

Methods for producing modified polypeptides containing amino acid analogues are disclosed, as well as compositions comprising purified dihydrofolate reductase polypeptides, produced by the methods of the invention. In certain aspects, methionine residues of the compositions are replaced with homoallylglycine, homoproparglycine, norvaline, norleucine, *cis*-crotylglycine, *trans*-crotylglycine, 2-aminoheptanoic acid, 2-butynylglycine and allylglycine.